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FLIGHTS OF THE MULTIPLACE VOSKHOD AND VOSKHOD-2 SPACECRAFT

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ABSTRACT: The flights of Soviet cosmonauts in the multiplace Voskhod and Voskhod-2 spacecraft have opened a new page in the history of manned space flight. This was the first opportunity to conduct research using crews made up of different specialists and to leave the craft and walk in space.

The Flight of the Voskhod Spacecraft

The spacecraft was boosted into orbit on 12 October 1964, at 10:30 AM Moscow time. The spacecraft weighed 5,320 kg. It was lifted to a record altitude of 408 km.

The spacecraft carried a crew of three: spacecraft commander Engineer Colonel Vladimir Mikhaylovich Komarov, research associate and Candidate of Technical Sciences Konstantin Petrovich Feoktistov, and physician Boris Borisovich Yegorov.

The flight lasted 24 hours and 17 minutes. The spacecraft landed in its assigned area at 10:47 AM on 13 October 1964. It had orbited the earth more than 16 times and had traveled approximately 670,000 km.

Voskhod is quite different from the Vostok spacecraft. In particular, the Voskhod is a three-place spacecraft. It has a standby retrorocket, thus considerably increasing the reliability of the return systems, and making it possible to select a higher orbit. The soft-landing system allows the cosmonauts to remain in the craft during the landing. Capsule reliability is much increased, and the cosmonauts can wear ordinary sport uniforms in place of pressure suits.

The Voskhod spacecraft can land on land or water. It is equipped with new instruments, a new orientation system (tested on the Kosmos series of satellites), and television and radio equipment.

The versatile specialists in the crew carried out a wide-ranging program of astronomical, geophysical, and medical and biological observations.

The Flight of Voskhod-2

The spacecraft was orbited on 18 March 1965, at 10:00 AM. A maximum altitude, 497.7 km, was achieved for the first time. The spacecraft carried a crew of two: spacecraft commander Colonel Pavel Ivanovich Belyayev, and copilot Colonel Aleksey Arkhipovich Leonov. The flight lasted 26 hours and 2 minutes. The spacecraft landed in the Perm' area on 19 March, at 12:02 PM. The landing was made by P. I. Belyayev using manual controls. The spacecraft completed more than 17 revolutions and traveled approximately 720,000 km. Cosmonaut A. A. Leonov, wearing a special pressure suit with a self-contained life support system, was the first man in history of the mastery of space to leave the spacecraft through its lock to walk in space on the second revolution, on March 18, at 11:30 AM. He walked 5.35 meters from the spacecraft, successfully completed a set of programmed observations, and returned to the spacecraft successfully. A. A. Leonov remained in outer conditions /space/ for approximately 20 minutes, and was outside the spacecraft for 12 minutes. The rest of the flight was devoted to checking out the spacecraft systems, to medical and biological research under flight conditions prevailing in space, and to astronavigation observations and measurements.

The first walk in space proved that man can not only /fly inside a spacecraft, but also actively work in deep space, making observations and carrying out other operations.

The flight of Voskhod-2 is a new stage in the mastering of space.

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